



OUTBREAK SPOTLIGHT....

Outbreak Spotlight is a regularly occurring feature in the Indiana Epidemiology Newsletter highlighting various aspects of outbreak investigation. The event described below stresses the importance of aggressive case investigation and distinction from other circulating illnesses and the prompt implementation of control measures in institutional settings.

Raising the Red Flag



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In this day of bioterrorism preparedness, the emergence of a vesicular rash should raise a red flag. Recently, a northern Indiana local health department did raise the red flag. The public health nurse contacted the ISDH District 2 field epidemiologist to investigate a vesicular rash on an inmate in the county jail.

The public health nurse had seen an inmate in the county jail who had numerous vesicles on her legs. The vesicles were present in different stages, from newly emerging to ruptured and draining. There was significant swelling in one leg, and the person complained of fever, headache, and pain associated with the swollen joints. A second inmate was identified having a large open wound on his elbow with significant swelling, and he also complained of fever and pain.

The public health nurse and the District 2 field epidemiologist interviewed the inmates at the jail to determine if they were cases of an outbreak of Fifth's Disease currently circulating in the community or to determine if a different outbreak was occurring. The first inmate with the vesicular rash on her legs could barely walk due to what was described as significant pain in an ankle where there was a significant amount of edema and erythema. There were numerous vesicles, some bandaged due to draining. The patient also complained of itching due to the vesicles, fever, and loss of sleep. This inmate stated that she had been incarcerated for the past five months and had been in solitary confinement for the past week. The rash had begun to appear about five days before the interview.

The second patient presented with a symmetrical wound about the size of a quarter on the elbow. The forearm was severely swollen from what appeared to be a grossly infected wound. This inmate also complained of fever, itching, difficulty sleeping, and a significant amount of pain. This inmate indicated that he was treated about seven months earlier for a staphylococcal infection in that same arm. This inmate had also been incarcerated for five months and his condition has just developed in the past week.

During the visit, the guards indicated that there was a third inmate with a similar rash. During the interview, this third inmate stated that she had several vesicles but "that they were no big deal". The inmate indicated that she had experienced these before and described them as "meth sores". This inmate did not report any other symptoms but did admit to the use of methamphetamines. The other two inmates also admitted to the use of methamphetamines.

Since the vesicles were occurring in multiple stages, including some that were open and draining, the decision was made to culture at least two of the inmates. The local health officer was notified of interview findings and ordered cultures performed on the two initial inmates. The affected inmates were placed in isolation until a diagnosis could be made. The jail staff members also implemented active surveillance to identify additional cases. If an additional case was found, they would notify the public health nurse immediately and the nurse would visit the jail to investigate the case.

The actual source of infection was unclear. It did not appear to be related to the Fifth's Disease infection that was circulating in the community. There were no links between the three cases other than they were all incarcerated in the same county jail prior to infection and all admitted to using methamphetamines prior to incarceration. Males and females are segregated within the jail; however, they all have access to common rooms at different times. The first two inmates were treated with Cephalexin for the infection and Tylenol for pain management.

The laboratory cultures tested positive for Methicillin-Resistant *Staphylococcus aureus* (MRSA). The laboratory results also indicated levels of susceptibility and resistance to various antibiotics, which in turn proved useful in treatment. The results also suggested that the strain was commonly referred to as community-associated MRSA. This strain can be associated with persons without any specific risk factors. However, persons with certain risk factors, such as weakened immune systems or intravenous drug use, may be more susceptible to acquiring the infection.

The public health nurse, upon getting the results, went back to the jail to educate jail staff and inmates. This included the need for universal precautions when dealing with inmates, with special attention given to hand washing. Inmates were also educated about MRSA, hand washing, personal hygiene, and ways to help identify any other potential cases. Recommendations from the National Institute of Corrections for the Management of MRSA were also provided to jail staff. The cells were thoroughly disinfected, as were the common rooms. Laundry from symptomatic inmates was washed separately and carefully handled so as not to infect housekeeping staff. Any inmates identified as having open wounds, a rash, or vesicles were isolated until evaluated by the public health nurse or local health officer.

The initial inmates were released from the jail for hospitalization and aggressive treatment. Several attempts were made to obtain past medical records on the second inmate who admitted to being treated seven months earlier for a staphylococcal infection to determine the past treatment course. This was unsuccessful.

This case offered many challenges since there was a concurrent outbreak investigation taking place in the same county. The cooperation of the jail staff and inmates was crucial. There was some resistance to obtaining information from the inmates because they perceived the investigation as possibly leading to future lawsuits or charges. This was especially difficult since all interviews had to take place with a guard present to maintain HIPPA compliance; interviews were conducted with a guard posted just outside the interview room who could be summoned immediately if needed.

The ISDH and the Indiana Department of Correction is actively addressing the problem of MRSA infections in correctional settings. Please watch for additional guidance on this issue in future editions of the *Indiana Epidemiology Newsletter*.
